

IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) An adaptive filter comprising at least two inputs for receiving at least two signals, and an output for supplying an output signal, characterized in that the adaptive filter further comprises:

5           means for determining coefficient updates in a transformed domain, said transformed domain being the frequency domain;

          an update algorithm with transformed auto- and a cross correlation matrices; and

          means for reducing the effect of correlation between the  
10 input signals on the coefficient updates, said reducing means multiplying the frequency domain input signals with the inverse of the input channel's power matrix.

2-4. (Cancelled).

5. (Currently Amended)     ~~The adaptive filter as claimed in claim 1~~  
An adaptive filter comprising at least two inputs for receiving at least two signals, and an output for supplying an output signal, characterized in that the adaptive filter further comprises:

5               means for determining coefficient updates in a transformed domain, said transformed domain being the frequency domain;

an update algorithm with transformed auto- and a cross correlation matrices; and

means for reducing the effect of correlation between the  
10 input signals on the coefficient updates, said reducing means  
multiplying the frequency domain input signals with the inverse of  
the input channel's power matrix,  
characterized in that said adaptive filter comprises a first order  
recursive network for determining the input channel's power matrix,  
15 said first order recursive network receiving the product of the  
frequency domain input signals and their conjugates as input, and  
in that, at each iteration, a certain positive value is added to  
all elements of the main diagonal.

6. (Previously Presented) The adaptive filter as claimed in claim  
1, characterized in that the update algorithm comprises solving a  
linear set of equations with the input channel power matrix as one  
of the elements of the linear set of equations.

7. (Currently Amended) ~~The adaptive filter as claimed in claim~~  
1An adaptive filter comprising at least two inputs for receiving at  
least two signals, and an output for supplying an output signal,  
characterized in that the adaptive filter further comprises:

5 means for determining coefficient updates in a transformed  
domain, said transformed domain being the frequency domain;

an update algorithm with transformed auto- and a cross' correlation matrices; and

means for reducing the effect of correlation between the  
10 input signals on the coefficient updates, said reducing means  
multiplying the frequency domain input signals with the inverse of  
the input channel's power matrix,  
characterized in that the adaptive filter comprises means for  
directly estimating the inverse of the input channel's matrix using  
15 a recursive update algorithm, and in that a limit is imposed on the  
eigenvalues of the matrix.

8. (Previously Presented) A signal processing device comprising  
an adaptive filter as claimed in claim 1.

9. (Previously Presented) The signal processing device as claimed  
in claim 8, characterized in that the device further comprises a  
dynamic echo and noise suppressor as a post-processing device  
coupled to an output of the adaptive filter.

10. (Previously Presented) The signal processing device as claimed  
in claim 8, characterized in that the signal-processing device  
comprises a programmable filter.

11. (Previously Presented) A teleconferencing system comprising at least one signal-processing device as claimed in claim 8.

12. (Previously Presented) A voice-controlled electronic device comprising at least one signal-processing device as claimed in claim 8.

13. (Previously Presented) A noise cancellation system comprising at least one signal-processing device as claimed in claim 8.

14. (Previously Presented) A method for filtering at least two signals and for supplying an output signal, characterized in that the method comprises the steps:

determining coefficient updates in the frequency domain;

5 using an update algorithm with transformed auto- and a cross correlation matrices; and

reducing the effect of correlation between the input signals on the coefficient updates by multiplying the frequency domain input signals with the inverse of the input channel's power  
10 matrix.